Jacob Grunwald

https://github.com/jgrun

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Education

- **University of Colorado, Boulder** — Boulder, CO
  Bachelor of Science in Electrical and Computer Engineering; GPA: 3.14 — *Aug. 2014 – May 2018*

Experience

- **Halleck Willard Inc.** — Frederick, CO
  Embedded Systems Engineering Intern — *May 2017 - Aug. 2017*
  - **Eggbot**: Ported code for the Eggbot from Evil Mad Scientists to a Renesas S1 ARM cortex microprocessor. Modified code to take advantage of multithreading and an RTOS.
  - **PCB Design**: Designed a microcontroller to mimic the hardware of the Eggbot using Altium. Designed a connector shield for a Renesas development board with Altium.
  - **Module Guides**: Helped to test and verify Renesas Synergy Module Guides. Ran test code and proofread module documentation.
- **Colorado Space Grant Consortium RocketSat11** — Boulder, CO
  Avionics Team Member — *Sep. 2016 - May 2017*
  - **Software**: Designed and tested software to integrate several sensors and cameras into a sounding rocket payload while maximizing sampling frequency
  - **Hardware**: Assisted in design and testing of hardware components for a sounding rocket payload. Focused particularly on testing communication protocols and integration of sensors with same communication protocols.
- **Electrical, Computer, and Energy Engineering Department** — Boulder, CO
  Course Assistant — *Sep. 2015 - Dec. 2016*
  - **CU Arduino**: Designed and built an Arduino platform for use in the departments freshman projects course.
  - **Student Help**: Assisted students in class work for ECEN 1400, a freshman electrical engineering projects class. Work included helping students to understand electrical engineering and programming concepts.

Skills

- **Programming**: C, Assembly, Verilog, Python **CAD**: Quartus Design, Altium Design **OS**: Windows, Linux

Projects

- **Unstructured P2P Vehicle Communication Network**: Created an unstructured peer to peer network to communicate vehicle information like velocity, acceleration, GPS location, and steering angle to vehicles within an approximately 60m radius around the host vehicle.
- **Human Reaction Timer**: Created a human reaction timer on the Terasic DE0 board coded in Verilog. Implemented a linear feedback shift register and a finite state machine to control the system.

Leadership

- **President of the Electrical Engineering Student Society**: Organized and led social, technical, and networking events for the Electrical, Computer, and Energy Engineering Department at CU Boulder
- **Fundraising**: Led a team of 9 students in raising $8,000 for LIMBS International, a non-profit group dedicated to donating artificial legs to those in need, over the course of six months.
- **Teamwork**: Worked with a group of 12 others to create and run pre-teen oriented programs at South Regional Library of the Montgomery County Library System for four years.